



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: SPEY Mk555 BYPASS RATIO: 1.0  
 UNIQUE ID NUMBER: 1RR018 PRESSURE RATIO ( $\pi_{00}$ ): 15.9  
 COMBUSTOR: Transply IIF  
 ENGINE TYPE: MTF RATED THRUST ( $F_{00}$ ) (kN): 44.0

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
D <sub>p</sub> /F <sub>00</sub> (g/kN) or SN	8.3	115.0	69.4	28.4
AS % OF ORIGINAL LIMIT	42.3	97.4	96.6	95.7
AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )			120.8	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			128.8	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			132.5	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			145.1	

### DATA STATUS

- PRE-REGULATION  
 x CERTIFICATION  
 - REVISED (SEE REMARKS)

### TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES  
 x DEDICATED ENGINES TO PRODUCTION STANDARD  
 - OTHER (SEE REMARKS)

### EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE  
 (ANNEX 16 VOLUME II)

### CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)  
 x OUT OF PRODUCTION (DATE: - )  
 - OUT OF SERVICE (DATE: - )

### MEASURED DATA

MODE	POWER SETTING (%F <sub>00</sub> )	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO <sub>x</sub>	
TAKE-OFF	100	0.7	0.735	0.29	0.30	21.90	23.7
CLIMB OUT	85	2.2	0.592	0.15	0.70	16.50	25.3
APPROACH	30	4.0	0.221	0.29	3.70	6.80	17.0
IDLE	7	26.0	0.096	1.86	29.30	3.70	7.1
LTO TOTAL FUEL (kg) or EMISSIONS (g)			312	315	4648	2880	-
NUMBER OF ENGINES				3	3	3	3
NUMBER OF TESTS				3	3	3	3
AVERAGE D <sub>p</sub> /F <sub>00</sub> (g/kN) or AVERAGE SN (MAX)				7.1	106.3	65.5	25.8
SIGMA (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)				2.2	16.3	1.7	1.7
RANGE (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)				5.8-9.7	88.7-120.8	64.5-67.5	24-27.4

### ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS  
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	99-102
TEMPERATURE (K)	280-290
ABS HUMIDITY (kg/kg)	0.006-0.01

### FUEL

SPEC	DERD 2494
H/C	1.91
AROM (%)	20

MANUFACTURER: Rolls-Royce plc  
 TEST ORGANIZATION:  
 TEST LOCATION:  
 TEST DATES: 01/08/1983-01/11/1984

### REMARKS

1. Ref RR report CRR10145.
2. Transply IIF combustors with H.P. fuel pump.

Compliance with Fuel Venting requirements: - ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)